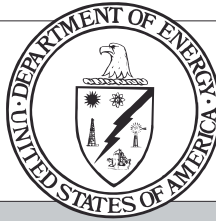



Environmental



Guidance

A vertical decorative graphic on the left side of the page, consisting of seven stylized tree icons. Each tree has a central trunk and two main branches, rendered in a light gray color.

Incorporating Ecological Risk Assessment into Remedial Investigation/Feasibility Study Work Plans

June 1994

U.S. Department of Energy
Office of Environmental Guidance
RCRA/CERCLA Division, EH-231
Washington, D.C.

memorandum

DATE: July 5, 1994

REPLY TO:
ATTN OF: Office of Environmental Guidance(EH-231):Bascietto:6-7917

SUBJECT: Incorporating Ecological Risk Assessment into Remedial Investigation/Feasibility Study (RI/FS) Work Plans

TO: Distribution

The purpose of this memorandum is to provide Department of Energy (DOE) Program Offices and Field Organizations with a copy of an environmental guidance document entitled: *"Incorporating Ecological Risk Assessment Into Remedial Investigation/Feasibility Study Work Plans."* This guidance is directed primarily to DOE and DOE contractor personnel responsible for planning, managing and communicating the results of work plans for the investigation of environmental restoration sites requiring an evaluation of potential ecological risks.¹ Notwithstanding, the attached document provides guidance to all personnel interested in gaining a better understanding of ecological risk assessment and accompanying project management considerations.

A graphic approach to environmental guidance consisting of flowcharts and step-by-step instructions is portrayed in the attached. Following the step-wise instructions in the sequence presented provides a logical, systematic approach to plan, manage and execute a work plan that meets the general ecological evaluation requirements of an RI/FS, as currently delineated in relevant Environmental Protection Agency (EPA) guidance and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). Emphasis is placed on early planning and frequent communication with risk assessors, risk managers and other stakeholders; the goal being timely convergence on an agreed understanding of the important sources of hazard, pathways of exposure and environmental receptors (i.e., the conceptual model), and to develop data quality objectives and agree upon the endpoints for the risk assessment.

The guidance deliberately avoids advocating any particular ecological risk assessment methodology be used, although a "tired" approach is taken by which increasingly complex information can be evaluated when appropriate. Several well accepted ecological risk assessment references are provided in order that users can gain access to useful ecological risk assessment information and methodological tools. The guidance also highlights important project management considerations that are geared toward meeting the EPA's general expectations for ecological risk assessments performed pursuant to the

¹The information contained herein provides specific guidance on planning managing and communicating the baseline ecological risk assessment discussed in Note B, module 2.4 of *"Remedial Investigation/Feasibility Study (RI/FS) Process, Elements and Techniques"* (DOE/EH-9400-7658; December 1993), jointly issued by the Office of Program Support, Regulatory Compliance Division (EM-431) and Office of Environmental Guidance RCRA/CERCLA Division (EH-231).

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). EPA has indicated that CERCLA risk assessment guidance will likely be useful in fulfilling ecological evaluation needs under the Resource Conservation and Recovery Act (RCRA) Corrective Action program. The principles of ecological risk assessment and project management that form the basis of this guidance are those espoused by EPA, primarily in two Agency guidance documents: 1) "Risk Assessment Guidance for Superfund, Volume II, Environmental Evaluation Manual" (EPA/540/1-89/001); and 2) "Framework for Ecological Risk Assessment" (EPA/630/R-92/001).

Included as appendices to the attached are three annotated work plans: 1) the Ecological Assessment Work Plan; 2) an Ecological Field Sampling Plan; and 3) an Ecological Quality Assurance Project Plan. References to these appendices are included at selected points in the guidance when it is necessary to illustrate how particular topics can actually be written into the work plan. Users are encouraged to consult the appended work plans in order to receive maximum benefit from this guidance document.

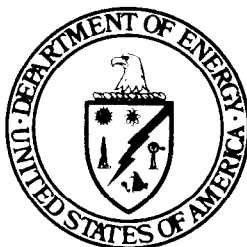
Questions concerning ecological risk assessment at environmental restoration sites in general, or the attached environmental guidance document in particular, may be directed to John Bascietto of my staff at (202) 586-7917.

A handwritten signature in black ink, appearing to read 'T. Traceski', with a stylized flourish at the end.

Thomas T. Traceski
Director, RCRA/CERCLA Division
Office of Environmental Guidance

Attachment

***INCORPORATING
ECOLOGICAL RISK ASSESSMENT
into
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
WORK PLANS***



JUNE 1994

Prepared by

**U.S. DEPARTMENT OF ENERGY
OFFICE OF ENVIRONMENTAL GUIDANCE
RCRA/CERCLA DIVISION
(EH-231)
Washington, D.C.**

Technical support by

**Argonne National Laboratory
Argonne, IL**

CONTENTS

PART I: OVERVIEW AND PROCESS DESCRIPTION	I-1
Purpose	I-3
Description of the Ecological Risk Assessment Process	I-4
Document Format	I-6
Key to the Graphic Approach	I-10
 PART II: MODULE DESCRIPTIONS	 II-1
Chapter 1: Project Planning	II-3
Module 1: Statutory and Regulatory Guidance	
Mandates	II-7
Module 2: Role of EPA and Other Regulators	II-13
Module 3: Preliminary Hazardous Substance	
Characterization	II-17
Chapter 2: Scoping	II-21
Module 4: Existing Site Information	II-25
Module 5: Ecological Input for RI/FS Scoping	II-29
Module 6: Develop Site Ecological Conceptual Model	II-33
Chapter 3: Initial Evaluation	II-39
Module 7: Site Physical Features	II-43
Module 8: Potential Contaminant Pathways in	
Ecosystem	II-47
Chapter 4: Work Plan Rationale	II-51
Module 9: Data Needs for Ecological Risk Assessment	II-55
Module 10: Work Plan Approach	II-63
Chapter 5: RI/FS Tasks	II-69
Module 11: Determination of Assessment and	
Measurement Endpoints	II-73
Module 12: Ecological Data Evaluation Needs	II-79
Module 13: Ecological Field Sampling Plan	II-83
Module 14: Ecological Input to Quality Assurance	
Project Plan	II-87
Chapter 6: Alternatives Evaluation	II-93
Module 15: Ecological Input to Baseline Risk	
Assessment	II-97
Module 16: Ecological Data Analysis for Comparison of	
Remedial Action Alternatives	II-101
Chapter 7: References	II-105

PART III: APPENDICES	III-1
APPENDIX A: Example of an Ecological Assessment Work Plan	III-7
APPENDIX B: Ecological Field Sampling Plan Annotated Outline	III-55
APPENDIX C: Ecological Quality Assurance Project Plan Annotated Outline	III-63
APPENDIX D: Sensitive Environments Rating Values	III-77
APPENDIX E: U.S. Environmental Protection Agency Regional Biological Technical Assistance Group Coordinators/Contacts	III-83
APPENDIX F: Glossary	III-87

TABLES

1.1 Examples of Applicable or Relevant and Appropriate Requirements	II-10
5.1 Standard Tasks Required for the Preparation of an RI/FS Work Plan	II-72
A.1 Contaminants of Potential Concern at the Washbone Site	III-14
A.2 Potential Ecological Receptor Groups for the Washbone Site Ecological Risk Assessment	III-26
D.1 Sensitive Environments Rating Values	III-80

FIGURES

1.1 Overview of the RI/FS Process (modified from EPA 1988a)	I-7
1.2 Planning and Scoping Stages in RI/FS Planning	I-8
1.3 Work Plan Development and Implementation Stages in RI/FS Planning	I-9
1.4 Explanation of Flowchart Symbols	I-11
6.1 Example of a Conceptual Site Ecological Model	II-37

FIGURES (Cont.)

A.1	Location of the Washbone Site	III-12
A.2	Staged Approach Proposed for the Washbone Site Ecological Risk Assessment	III-22
A.3	Proposed Ecological Sampling Locations at the Washbone Site	III-30

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NOTATION

ARAR	applicable or relevant and appropriate requirement
BTAG	Biological Technical Assistance Group
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act of 1980
DOE	U. S. Department of Energy
EPA	U. S. Environmental Protection Agency
ERPM	environmental restoration program manager (DOE)
FFA	Federal Facility Agreement
FS	feasibility study
FWS	U. S. Fish and Wildlife Service
NCP	National Contingency Plan
NEPA	National Environmental Policy Act
NPL	National Priorities List
NRDA	natural resource damage assessment
ORNL	Oak Ridge National Laboratory
QA	quality assurance
QAPP	quality assurance project plan
QA/QC	quality assurance/quality control
PCB(s)	polychlorinated biphenyl(s)
RAGS II	Risk Assessment Guidance for Superfund, Volume II Environmental Evaluation Manual
RCRA	Resource Conservation and Recovery Act of 1976
RI	remedial investigation
RI/FS	remedial investigation/feasibility study
SAP	sampling and analysis plan
SARA	Superfund Amendments and Reauthorization Act of 1986

